

# Curriculum Vitae et studiorum

REDATTO AI SENSI DEGLI ARTT. 46 E 47 DEL D.P.R. 28.12.2000, N. 445

Il sottoscritto Enrico Virgilli nato a Ferrara (Fe) il 07/05/1977, c.f. VRGNRC77E07D548Y, e residente a Ferrara, in via Armida, 5 44122 Ferrara (Fe) consapevole della responsabilità penale prevista, dall'art. 76 del D.P.R. 445/2000, per le ipotesi di falsità in atti e dichiarazioni mendaci ivi indicate:

DICHIARA:

che tutte le informazioni sotto riportate sono veritiere.

## Personal information

### Enrico Virgilli

via Armida, 5 – 44122 Ferrara (Fe) - Italy

*Gender:* male

*Date of Birth:* 7 May 1977

*Nationality:* Italian

*Birthplace:* Ferrara

✉ enrico.virgilli@pec.it  
virgilli@fe.infn.it  
enicovirgilli@gmail.com

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☎ (+39) 333 6405036

🌐 <http://www.fe.infn.it/u/virgilli/>



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## Languages

Italian - native language

English - intermediate (speaking, listening, reading, writing)

French - basic (reading, listening)

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## Main research interest and activities

- Calibration and test of new generation detectors for high energy photons for astrophysics environment. Calibration team member of the Larix facility.
  - Realization and test of focusing optics for X and Gamma-ray observations.
  - Study and characterization of crystalline materials using Bragg and Laue diffraction techniques.
  - Reduction of data acquired with space-based telescopes (BeppoSAX, RXTE, INTEGRAL, Swift), analysis and interpretation of the results. Extensive knowledge and use of the main tools for high energy astrophysics FTOOLS, XSELECT, XRONOS and XSPEC for spectral and temporal study of X-/ $\gamma$ -ray sources.
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## Patent pending

01/06/2016

**Hard X-ray TELEscope (HAXTEL): a method for building Laue lenses for middle and short focal length (< 10 m).**

Italian patent application No. 102016000056528 deposited on 01/06/2016. Title: "Metodo per la realizzazione di una lente di Laue rigida" Co-inventors: Prof. F. Frontera, Eng. V. Carassiti, Dr. G. Loffredo, Mr. F. Evangelisti, Mr. S. Squerzanti.

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## Education and training

10/2018

**57<sup>th</sup> Radiation Protection School "C. Polvani"**

Decommissioning and radioactive waste management  
2018 October 15-16, Joint Research Centre (JRC) - Ispra, Varese (Italy)  
[http://www.airp-asso.it/wp-content/uploads/docs.polvani/corso\\_57/57%20polvani.pdf](http://www.airp-asso.it/wp-content/uploads/docs.polvani/corso_57/57%20polvani.pdf)

23/02/2018

**Qualified Radiation Protection Expert RPE/QE level II**

Certified expertise in ionising radiation, radioactive substances, X-ray equipment and accelerators. Issued by the Italian Ministry of Labor, Rome (Italy). Certified at:  
<http://www.lavoro.gov.it/temi-e-priorita/salute-e-sicurezza/focus-on/Esperti-qualificati/Documents/Elenco-nominativo-Esperti-Qualificati-aggiornato-al-04122018.pdf>

04/2017

**MEGAlib school**

Training course of MEGAlib with  
April 26-28, 2017 - ICE (CSIC-IEEC), Campus UAB - Barcelona

<https://www.ice.csic.es/en/content/33/our-conferences/2/conferencias-i-reunions-anteriors/3>

Contacts for reference:

Dr. Peter VON BALLMOOS, pvb@irap.omp.eu

Dr. Margarita HERNANZ, hernanz@ieec.uab.es

10/2005 -  
04/2008

**PhD in Physics - University of Ferrara**

**Thesis Title:** Simultaneous spectral and temporal properties of Galactic X-ray Binaries. Summary: Three sources were analyzed in terms of spectral and temporal variability.

The *Z*-sources GX 340+0 has been studied using the bulk motion comptonization models BMC and COMPTB, in comparison with the classical description with thermal comptonization (COMPTT) or phenomenological models (PL). The black hole candidate 4U 1630-47 as been also studied in terms of bulk and thermal comptonization models, and on the basis of the relation between temporal and spectral parameters, an estimated mass has been obtained, by using the scaling method (Titarchuk et al. 2009). The same method has also been applied to the still unknown source Cyg X-3 and the results seems to be in favor of presence of a central black hole.

**Advisors:** Proff. F. Frontera and L. Titarchuk.

**External Committee Members:** Proff. Z. Bereziani, M. Vietri, L. Burderi, T. Di Salvo

**Evaluation:** Excellent.

09/2005

**International School of Space Science**

Gamma-Ray Bursts: from Astrophysics to Cosmology

September 12 - 16, 2015 - Campus Guglielmo Reiss Romoli - L'Aquila

Contacts for reference:

Dott. Lorenzo AMATI, lorenzo.amati@inaf.it

Dott. Cristiano GUIDORZI, guidorzi@fe.infn.it

03/2005

**European Computer Driving Licence (ECDL)**

Internationally recognised IT qualification widely recognised by employers as proof of ability and competence when working with IT.

28/10/2004

**Degree in Physics - University of Ferrara**

**Thesis Title:** La natura delle binarie X di piccola massa ad alta luminosità: il caso di GX 3+1 osservata con INTEGRAL.

Summary: The Thesis explored the behavior of the galactic low mass x-ray binary source GX 3+1 in terms of spectral variability. I have studied its spectral behavior during two different epochs and found evidence of hard tail in a sub-set of observations. Furthermore, the Color-Color Diagram (CD) resembled that of *Z*-sources, suggesting that bright Atoll sources represents an intermediate class between the classical Atoll and the *Z* class. **Advisors:** Prof. F. Frontera & Dr. R. Farinelli.

**Score:** 104/110.

1991-1996

**Technical Institute Diploma**

Istituto Tecnico Industriale Statale N. Copernico - ITIS, Ferrara (Italy)

High school diploma in electronics - score 54/60

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## Working activity and Memberships

- 07/2018 **Visiting researcher at Technical University of Denmark - DTU Copenhagen**  
 Development and optimization of Cadmium Zinc Telluride (CZT) solid state detectors for Astrophysics applications.  
 Merit ranking: [http://www.tucep.org/merit\\_ranking.pdf](http://www.tucep.org/merit_ranking.pdf)  
 References at DTU:  
 Dr. Irfan Kuvvetli irfan@space.dtu.dk  
 Emeritus Prof. Carl Butz-Jorgensen carl@space.dtu.dk  
 Emeritus Prof. Niels Lund niels@space.dtu.dk  
 Dr. Finn E. Christensen finn@space.dtu.dk
- 04/2018 **Principal Investigator of the project:** "Increase of the Technological Readiness Level for the realization of hard X-/soft Gamma-ray Laue optics" proposal Nr. MIS-24. Funded by National Institute of Astrophysics/Italian Space Agency (272 k€). "Studi per future missioni scientifiche" Agreement ASI-INAF n.2017-14-H.0  
<http://hestudy.iaps.inaf.it/StudiAAE-miss-fundings.html>  
 Project partners: INAF/OAS Bologna (Italy) and CNR/IMEM Parma (Italy)
- 04/2018 **Collaborator of the project:** "3D-CZT Module (3DCaTM) for spectroscopic imaging, timing and polarimetry in hard X-/ soft Gamma-rays satellite mission" proposal Nr. MIS-01.  
 Funded by National Institute of Astrophysics/Italian Space Agency (170 k€).  
 "Studi per future missioni scientifiche" Agreement ASI INAF n.2017-14-H.0  
<http://hestudy.iaps.inaf.it/StudiAAE-miss-fundings.html>  
 Project leader: Dr. Ezio Caroli INAF/OAS Bologna (Italy), other project partners: CNR/IMEM Parma (Italy), Dipartimento di Fisica e Chimica - Università di Palermo (Italy)
- 01/01/2017 -  
 now **Fixed Term Researcher contract - Ricercatore a Tempo Determinato RTD/A - tempo pieno (art. 24 c.3-a L. 240/10)**  
 Development of Laue lenses for Gamma-rays astrophysics applications  
 Department L.240/2010 Physics and Earth Science  
 Reference University of Ferrara (Italy): Prof. Piero ROSATI, rosati@fe.infn.it
- 08/2017 **Visiting researcher at Technical University of Denmark - DTU Copenhagen**  
[http://www.tucep.org/merit\\_ranking.pdf](http://www.tucep.org/merit_ranking.pdf)  
 Application of the MEGAlib toolbox for the optimization of Cadmium Zinc Telluride (CZT) detectors.  
 References at DTU:  
 Dr. Irfan Kuvvetli irfan@space.dtu.dk  
 Emeritus Prof. Carl Butz-Jorgensen carl@space.dtu.dk  
 Emeritus Prof. Niels Lund niels@space.dtu.dk  
 Dr. Finn E. Christensen finn@space.dtu.dk
- 09/2015 -  
 on going  
 (3.5 years  
 duration) **Member of the AHEAD EU project (integrated Activities in the High Energy Astrophysics Domain)**  
 RIA (Research and Innovation Action) scheme of the H2020 program (EU contribution 5M€)  
 National coordinator Dr. Luigi PIRO luigi.piro@iaps.inaf.it  
 Reference for UniFE: Prof. Piero ROSATI rosati@fe.infn.it
- 09/2015 -  
 02/2019) **Member of the Simulation Working Group (SWG) of the Work Package WP4 (AHEAD)**  
 WP4 coordinator Dr. Peter VON BALLMOOS pvb@irap.omp.eu  
 Reference for UniFE: Prof. Piero ROSATI rosati@fe.infn.it

- 01/03/2016 - 31/12/2016 **Postdoctoral fellow (Assegnista di ricerca)**  
 Department L.240/2010 Physics and Earth Science  
 Laue lenses development for Gamma-rays astrophysics and other possible applications.  
 Reference at University of Ferrara (Italy): Prof. Piero ROSATI, rosati@fe.infn.it
- 01/03/2015 - 29/02/2016 **Postdoctoral fellow (Assegnista di ricerca)**  
 Department L.240/2010 Physics and Earth Science  
 Laue lenses development for Gamma-rays astrophysics and other possible applications.  
 Reference UniFE: Prof. Piero ROSATI, rosati@fe.infn.it
- 10/2015 **Hard X-ray Modulation Telescope HE/HXMT China's first X-ray astronomy satellite - calibration team member**  
 Responsible for the calibration activities for the Chinese HE/HXMT instrument at the LARIX facility.  
<https://gbtimes.com/china-launches-x-ray-space-telescope-scan-galactic-plane-black-holes-neutron-stars>  
<http://www.unife.it/news/2017/giugno/il-contributo-di-unife-alla-missione-spaziale-cinese-insight>  
 Responsible of the ground calibration of HE/HXMT:  
 Dr. Li Xufang (Institute of High Energy Physics (IHEP) - Beijing.  
 UniFE Coordinator: Prof. F. Frontera frontera@fe.infn.it  
 UniFE Coordinator: Prof. P. Rosati rosati@fe.infn.it  
 Scientific Coordinator: Dr. J.B. Stephen stephen@iasfbo.inaf.it
- 01/03/2014 - 28/02/2015 **Postdoctoral fellow (Assegnista di ricerca)**  
 Department L.240/2010 Physics and Earth Science  
 Laue lenses development for Gamma-rays astrophysics and other possible applications.  
 Reference UniFE: Prof. Piero ROSATI, rosati@fe.infn.it
- 22/07/2013 - 31/12/2013 **Postdoctoral fellow (Assegnista di ricerca)**  
 National Institute of Nuclear Physics (INFN - Istituto Nazionale di Fisica Nucleare) -  
 Via Enrico Fermi, 40 - Frascati (Roma)  
 Section of Ferrara
- 06/2014 **Association to the National Institute of Astrophysics - Institute of Space Astrophysics and Cosmic Physics - INAF/IASF Bologna (Italy)**  
 Collaboration with the staff of IASF/INAF for Monte Carlo simulations of X/gamma focusing optics.  
 References at INAF/IASF:  
 Dr. Ezio CAROLI, ezio.caroli@inaf.it  
 Dr. John STEPHEN, john.stephen@inaf.it
- 06/2014 **Association to the National Institute of Nuclear Physics - INFN**  
 National Institute of Nuclear Physics (INFN - Istituto Nazionale di Fisica Nucleare) -  
 Via Enrico Fermi, 40 - Frascati (Roma)  
 Section of Ferrara
- 06/2014 **Member of the LOGOS project (Laue Optics for Gamma-ray Observation)**  
 supported by the National Institute of Nuclear Physics - INFN  
 Tests of crystals at the ID15 of the European Synchrotron Radiation Facility (ESRF).  
 References:  
 Dr. Valerio BELLUCCI, bellucci@fe.infn.it  
 Dr. Andrea MAZZOLARI, mazzolari@fe.infn.it  
 Prof. Vincenzo GUIDI, guidi@fe.infn.it
- 01/01/2013 - 31/12/2013 **Postdoctoral fellow (Assegnista di ricerca)**

Development of Laue lenses for Hard X-/Soft Gamma-rays for astrophysics applications.  
Department L.240/2010 Physics and Earth Science  
Reference UniFE: Prof. Lev TITARCHUK, titarchuk@fe.infn.it

2011–2013

**Member of the LAUE project team - University of Ferrara**

Tecnological project “LAUE: a lens for gamma rays” funded by the Italian Space Agency and devoted to the development of industrial technologies for broadband (70-700 keV) focusing Laue lens for future X and gamma-ray astronomy.  
Primary contractor: DTM Technology - Modena: CEO Eng. F. Cassese, fcassese@dtm.it  
Scientific responsible University of Ferrara: Prof. F. Frontera, frontera@fe.infn.it

01/01/2012 -  
31/12/2012

**Postdoctoral fellow (Assegnista di ricerca)**

Department L.240/2010 Physics and Earth Science  
Development of Laue lenses for Hard X-/Soft Gamma-rays for astrophysics applications.  
Reference UniFE: Prof. Filippo FRONTERA, frontera@fe.infn.it

01/01/2011 -  
31/12/2011

**Postdoctoral fellow (Assegnista di ricerca)**

Department of Physics  
Development of Laue lenses and applications in Gamma-ray Astrophysics.  
Reference UniFE: Prof. Filippo FRONTERA, frontera@fe.infn.it

01/01/2010 -  
31/12/2010

**Postdoctoral fellow (Assegnista di ricerca)**

Department of Physics  
Development of Laue lenses and applications in Gamma-ray Astrophysics.  
Reference UniFE: Prof. Filippo FRONTERA, frontera@fe.infn.it

2008-2010

**Member of the HAXTEL project**

Hard X-ray TELEscope (HAXTEL) project devoted to develop a technology for building a broad energy pass-band Laue lens instrument with short focal length (< 10 m).  
Scientific Coordinator: Prof. F. FRONTERA, frontera@fe.infn.it  
Engineering Coordinator: Eng. V. CARASSITI, carassiti@fe.infn.it

2009

**Collaboration for the publication of the GRBM on line data archive**

Implementation of a public BeppoSAX GRBM online catalogue and scientific exploitation of the GRBM data archive  
Guidorzi; M. Lacapra; C. Ceccobello; L. Titarchuk; F. Frontera; E. Virgilli; L. Sambo; R. Farinelli; S. Silvestri; M. Orlandini; L. Nicastro; L. Amati  
CONTRATTO ASI-INAF I/088/06/0 “STUDIO DI ASTROFISICA DELLE ALTE ENERGIE” Teoria e Simulazioni e Analisi Dati Referenza Progetto: DA-019  
Finanziamento: 15 kEuro  
<http://saxgrbm.iasfbo.inaf.it/>

01/08/2008 -  
31/07/2009

**Postdoctoral fellow (Assegnista di ricerca)**

Department of Physics  
Development of Laue lenses and applications in Gamma-ray Astrophysics.  
Reference UniFE: Prof. F. FRONTERA, frontera@fe.infn.it

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## Fundings and Grants

2019

**Auxiliary support for teaching**

Assigned budget for the program dedicated to the students of the Physics degree: “multiwavelength/multimessenger educational path”: visits to the 152 cm Cassini

telescope (Loiano, Bologna), Northern Cross interferometer (Medicina, Bologna), EGO/Virgo interferometer (Cascina, Pisa).

**Funded: 1000 €**

2018

**Idee per Future Missioni - ASI/INAF**

Increase of the Technological Readiness Level for the realization of hard X-/soft Gamma-ray Laue optics.

**Funded: 272 k€**

2018

**Fondo di Ateneo per la Ricerca (FAR)**

Supporto all'sperimentale in corso al laboratorio LARIX relativa alla realizzazione di sistemi ottici per la focalizzazione di raggi X duri e gamma (lenti di Laue) per osservazioni astrofisiche. Il finanziamento sara' impiegato per il potenziamento dell'efficienza e dell'accuratezza della focalizzazione.

**Funded: 1000€**

2017

**Fondo per l'Incentivazione alla Ricerca (FIR)**

Potenziamento del laboratorio LARIX nell'ambito delle attività di sviluppo di ottiche per raggi X/Gamma e per presentazioni dei risultati a conferenze internazionali.

**Funded: 5000€**

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## Teaching Activity and Institutional services

*Academic  
year  
2018-2019*

Teaching assignment: **experimental astrophysics**

3<sup>rd</sup> year course for bachelor degree in Physics - 60 hours/ 6 cfu - CUN: FIS/05

II<sup>nd</sup> Semester: February 2019 - June 2019

Physics and Earth Science Department - University of Ferrara

*Academic  
year  
2017-2018*

Teaching assignment: **astrophysical measurements**

3<sup>rd</sup> year course for bachelor degree in Physics - 48 hours/ 6 cfu - CUN: FIS/05

II<sup>nd</sup> Semester: February 2018 - June 2018

Physics and Earth Science Department - University of Ferrara

*Academic  
year  
2017-2018*

Teaching assignment: **high-energy astrophysics**

Course for master degree in Physics - 12 hours, CUN: FIS/05

II<sup>nd</sup> Semester: February 2018 - June 2018

Physics and Earth Science Department - University of Ferrara

08/2018

**Committee member for Postdoctoral fellow assignment**

Research title: "Ricostruzione accurata della distribuzione di massa di ammassi di galassie con tecniche di lensing gravitazionale".

Scientific disciplinary sector FIS/05

Physics and Earth Science Department - University of Ferrara

29/06/2018

**Chair of the Doctoral Committee**

Candidate: Maikol Camilo Delgado Correal

Thesis title: On the Optical Properties of Cosmic Telescopes PhD in Physics (D.M.

45/2013) - International Relativistic Astrophysics – IRAP Erasmus Mundus Joint

Doctorate - EMJD

Physics and Earth Science Department - University of Ferrara

2017-2019	<b>Member of the Physics and Earth Science Department Board</b>
2017-2019	<b>Member of the Degree Committee Board</b>
Academic year 2009-2010	Teacher assistant: <b>Principles of thermodynamics and applications</b> Lectures and exercises (15 hours) Engineering Department - University of Ferrara
Academic year 2008-2009	Teaching contract: <b>Applications of physical interest of the fundamental laws of classical mechanics</b> Supplementary lectures to the course: General Physics for Engineers (15 hours) Minute of Engineering faculty board 03/07/2008 Engineering Department - University of Ferrara

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## Supervisor of Grad and PhD students

- 12/2017      Supervisor of Bachelor Degree: **Lisa Ferro**  
Thesis title: *Development of a model and simulations of focusing optics for hard X and soft Gamma-rays: towards the realization of a sector of Laue lens.* Physics and Earth Science Department - University of Ferrara.
- 12/2016      Assistant supervisor of Master Degree: **Jacopo Romano**  
Thesis title: *Crystals characterization and feasibility study for a Laue lens prototype.* Physics Department - University of Bologna
- 09/2016      Supervisor of Bachelor Degree: **Giovanni Volta**  
Thesis title: *Laue lenses for astrophysical applications. Optimization of the field of view and study of the angular resolution for off-axis sources.* Physics and Earth Science Department - University of Ferrara.
- 03/2016      Supervisor of Bachelor Degree: **Sabrina Lorena Porini**  
Thesis title: *Beam alignment procedures at the LARIX facilities.* Physics and Earth Science Department - University of Ferrara.
- 03/2014      Supervisor of Bachelor Degree: **Filippo Nobili**  
Thesis title: *Laue lenses for Gamma-rays: physical properties of the frame and of adhesives used for the optics integration at LARIX facility.* Physics and Earth Science Department - University of Ferrara.
- 2010-2013:    Assistant supervisor of PhD Thesis: **Vincenzo Liccardo**  
Thesis title: *Gamma-ray lenses: Development and Test.* Physics and Earth Science Department - University of Ferrara.
- 2010-2013    Assistant supervisor of PhD Thesis: **Vineeth Valsan**  
Thesis title: *Extending the band of focusing X-ray telescopes beyond 100 keV: motivations and proposed solutions.* Physics and Earth Science Department - University of Ferrara.



10/2010 Assistant supervisor of Bachelor Degree Thesis: **Christian Gulmini**

Thesis title: Study of emission processes in the binary system GX 340+0.  
Physics Department - University of Ferrara - Italy

10/2005 Assistant supervisor of Master Degree Thesis: **Elisa Venier**

Thesis title: INTEGRAL identification of serendipitous sources revealed with the PDS on board BeppoSAX.  
Physics Department - University of Ferrara - Italy

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## Public lectures and outreach activity

01/2019

### **Work in progress at Physics Department - 2019 January, 23-25**

Description of the group's activities to the students approaching their choice Meeting with the students for the presentation of research group activities, internship and thesis proposals.

Reference:

Dr. Barbara RICCI, ricci@fe.infn.it

05/2018

### **Educational visit to the European Gravitational Observatory / Virgo Interferometer - Cascina (Pisa)**

Guided tour to a group of ~30 students of the Degree in Physics (Bachelor and Master).

Co-organizers:

Prof. Piero ROSATI, rosati@fe.infn.it

Prof. Guido ZAVATTINI, zavattini@fe.infn.it

05/2017

### **Children at work - Bimbi e Bimbe in ufficio**

Description of the laboratories activities to the children of academic and non-academic employees of the University. National event promoted by "Corriere della Sera" and "La Stampa" newspapers.

03/2017

### **06/03/2017 Description of the LARIX activities within a meeting with the regional authorities.**

Meeting with President of the Regione Emilia Romagna - Dr. Stefano Bonaccini

Dean of the University of Ferrara - Prof. Sergio Zauli

General Director of Ferrara University - Dr. Giuseppe Galvan

Council member - Prof. Patrizio Bianchi

<https://lanuovaferrara.gelocal.it/ferrara/cronaca/2017/03/07/news/unife-piccolo-ateneo-ma-vero-gioiello-1.14992125>

<https://video.gelocal.it/lanuovaferrara/locale/unife-dove-si-fa-ricerca-sulle-lenti-per-i-telescopi-spaziali/69417/69851>

<https://www.scienzainrete.it/contenuto/articolo/redazione/si-inaugura-ferrara-laue-lenti-caccia-di-raggi-gamma/ottobre-2013-0>

2014-2016

### **Modern Physics Laboratories**

Advisor for high school students attending lectures/stages in the laboratories to learn fundamental physics through experiments.

Reference:

Dr. Federico SPIZZO, spizzo@fe.infn.it

Dr. Paolo LENISA, lenisa@fe.infn.it

Physics and Earth Science Department - University of Ferrara

June 2015

### **SperimentEstate 2015**

Teaching activity for high school students in collaboration with the National Research Council (CNR) Bologna.

Reference:

Dr. Milena SCHIAVONE, milena.schiavone@inaf.it

Dr. Natalia AURICCHIO, natalia.auricchio@inaf.it

[http://sperimestate.bo.imm.cnr.it/Resources/015\\_IASF\\_Auricchio\\_Schiavone\\_Virgili.pdf](http://sperimestate.bo.imm.cnr.it/Resources/015_IASF_Auricchio_Schiavone_Virgili.pdf)

2013,  
October 10

### **Opening ceremony of the Larix facility**

Chairman Prof. Piero Rosati - Member of the Astrophysical group of the University of Ferrara

Prof. Pasquale Nappi - Dean of the University of Ferrara

Prof. Roberto Calabrese - Director of the Physics and Earth Science Department

Dott. Fabrizio Tuzi - General Director of the Italian Space Agency

<http://www.unife.it/eventi/2013/inaugurazione-del-laboratorio-larix-per-lo-sviluppo-di-lenti-di-laue>

2008-2018

### **Ministerial project: Lauree Scientifiche**

Senior advisor for students on behalf of the Experimental Astrophysics division of the Physics and Earth Science Department of the University of Ferrara.

2006-2018

### **Open doors at the Physics Department**

Mentor and Tutor for the experimental Astrophysics group during the public access to the laboratories of the Physics and Earth Science Department.

Reference:

Dr. Barbara RICCI, ricci@fe.infn.it

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## **Informatic skills**

<i>Windows</i>	Good knowledge of the OS, use of the WORKS package with use of Power-point, Word, Excel. European Computer Driving License (ECDL).
<i>Linux and MacOS</i>	Use of the Linux/Unix based OS (Fedora, Red Hat, Mandriva, Ubuntu), system update/upgrading, s/w installation from source package or from binary pre-compiled code. Use of keynote, texmaker. Use of hard-disk partitioning tools.
<i>General Programming Languages</i>	Practice with Monte Carlo codes with PYTHON, c, c++, PERL. Good expertise in Unix Bourne Again SHell (BASH), C shell. Frequent use of the markup language L <sup>A</sup> T <sub>E</sub> X. Basic employ of IDL (Research Systems).
<i>Website languages</i>	Good knowledge and use of the HTML language. Basic knowledge of PHP and MySQL database management system for web development. Excellent use of the Content Management System (CMS) wordpress. Manager of the LARIX facility website: <a href="http://larixfacility.unife.it/">http://larixfacility.unife.it/</a>
<i>Graphics/image processing</i>	Use of gnuplot for presenting plots and graphs. Good knowledge of the cross-platform image editors gimp and photoshop.
<i>Scientific Data Analysis</i>	Good expertise with XRONOS and XSPEC, knowledge and use of the FITS file format, widely used in Astrophysics and of the FTOOLS developed for

processing/analysis of FITS files.

*Other skills*      Good knowledge of QDP, Root, labVIEW, Matlab.

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## Scientific Services

Referee for **Journal of Astrophysics and Astronomy (JOAA)**, **Nuclear Instruments and Methods in Physics Research**

- 17-19  
*September*  
2013      **Co-organizer of conference (LOC)**  
Congresso Nazionale Oggetti Compatti CNOC VIII, Ferrara (Italy)  
[http://www.brera.inaf.it/campana/cnoc8/CNOC\\_VIII/Welcome.html](http://www.brera.inaf.it/campana/cnoc8/CNOC_VIII/Welcome.html)
- 14-16  
*September*  
2011      **Co-organizer of conference (LOC)**  
X-ray Astrophysics up to 511 keV, Ferrara (Italy)  
<http://www.fe.infn.it/astrofe2011>
- 24-27 May  
2010      **Co-organizer of conference (LOC)**  
ACTIVE GALACTIC NUCLEI 9: Black Holes and Revelations  
Nono Congresso Nazionale sui Nuclei Galattici Attivi, Aula Magna dell'Università di Ferrara,  
<http://www.ira.inaf.it/meetings/agn9/>
- 11-12  
*September*  
2009      **Co-organizer of conference (LOC)**  
Black Holes in Binary Systems: Observations versus Theory, Ferrara (Italy)  
<http://www.fe.infn.it/astrofe2009>
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## Contributions to National and International Conferences

- 02/2019      **12<sup>th</sup> INTEGRAL conference and 1<sup>st</sup> AHEAD Gamma-ray Workshop**  
<https://www.astro.unige.ch/integral2019/conference-home-page>  
Title of the talk: "The Wide Field Monitor and Narrow Field Telescope on board the ASTENA mission"  
February 11-15, 2019, Genève (Switzerland)
- 10/2018      **AHEAD - III<sup>rd</sup> Simulation Working Group (SWG) progress meeting**  
Title of the talk: "Updates on the Narrow Field Telescope on board ASTENA"  
2018 October 18-19 - Institut d'astrophysique de Paris - IAP
- 06/2018      **SPIE Astronomical Telescopes + Instrumentation**  
<https://spie.org/Documents/ConferencesExhibitions/AS18-final-L.pdf>  
Title of the talk: "The advanced surveyor of transient events and nuclear astrophysics (ASTENA) mission within the AHEAD project" - Session 19  
- talk 10699-81  
10 - 15 June 2018 - Austin, Texas - USA
- 06/2018      **SPIE Astronomical Telescopes + Instrumentation**  
<https://spie.org/Documents/ConferencesExhibitions/AS18-final-L.pdf>

- Title of the talk: " The Narrow Field Telescope on board the ASTENA mission" - Session 23 - talk 10699-94  
10 - 15 June 2018 - Austin, Texas - USA
- 06/2018      **SPIE Astronomical Telescopes + Instrumentation**  
<https://spie.org/Documents/ConferencesExhibitions/AS18-adv-L.pdf>  
Poster title: " The wide field monitor and spectrometer instrument on board the ASTENA satellite mission concept - Poster session 10699-215  
10 - 15 June 2018 - Austin, Texas - USA
- 04/2018      **AHEAD - II<sup>nd</sup> Simulation Working Group (SWG) progress meeting**  
[https://indico.lip.pt/event/422/contributions/1124/attachments/1072/1241/virgilli\\_coimbra.pdf](https://indico.lip.pt/event/422/contributions/1124/attachments/1072/1241/virgilli_coimbra.pdf)  
Title of the talk: "ASTENA Narrow Field Telescope: focal plane detector simulations"  
April 18-19, 2018 - Universidade de Coimbra - Portugal
- 12/2018      **ASI Workshop "Science with stratospheric balloons"**  
[https://www.asi.it/sites/default/files/attach/evento/agenda\\_dellevento\\_0.pdf](https://www.asi.it/sites/default/files/attach/evento/agenda_dellevento_0.pdf)  
Title of the talk: "A balloon borne laue lens telescope for gamma-ray observations"  
2018 December 17-18, Rome (Italy)
- 12/2017      **Workshop ADONI 2017 - ADaptive Optics National Italian laboratories"**  
<https://indico.ict.inaf.it/event/520/attachments/608/661/programmaADONI2017.pdf>  
Title of the talk: "Active control of Laue lens modules for focusing celestial hard X/soft gamma-rays"  
April 10-12, 2017 Padua (Italy)
- 11/2017      **AHEAD - I<sup>st</sup> Simulation Working Group (SWG) progress meeting**  
[https://agenda.infn.it/event/14304/contributions/23980/attachments/17073/19373/2017\\_11\\_14\\_AHEAD\\_Roma\\_intro.pdf](https://agenda.infn.it/event/14304/contributions/23980/attachments/17073/19373/2017_11_14_AHEAD_Roma_intro.pdf)  
Title of the talk: "ASTENA Narrow Field Telescope: focal plane detector simulations".  
2017 November 14-15, Tor Vergata - Roma
- 11/2017      **AHEAD Simulations Working Group (SWG) kick-off meeting**  
<https://www.ice.csic.es/en/content/33/our-conferences/2/conferencies-i-reunions-anteriors/3>  
Title of the talk: "The ASTENA mission concept: simulation on the Wide Field Monitor and on the Narrow Field Telescope".  
2017 April 23-25, Institut de Ciències de l'Educació ICE (CSIC-IEEC), Campus Universitat Autònoma de Barcelona (UAB) - Spain
- 11/2016      **Workshop on soft  $\gamma$ -ray Astronomical Telescopes**  
<https://www.conferencemanager.dk/SoftGammaRayAstronomicalTelescopes2016/programme.html>  
Title of the talk: "Laue lenses for soft Gamma-rays: general overview and recent developments".  
2016 November 7-8 DTU Space Lyngby - Copenhagen
- 10/2016      Participant to: **7th Young Researcher Meeting - Torino**  
Organized by INTERNATIONAL PHYSICISTS NETWORK  
<http://www.iphysnet.com/wp/yrm/events/7yrm/participants/>  
24 - 26 October, 2016 - INRiM - Istituto Nazionale di Ricerca Metrologica - Torino (Italy)

- 09/2016      **102° Congresso Nazionale Società Italiana di Fisica**  
<https://www.sif.it/attivita/congresso/102>  
 26-30 September, 2016 - Polo Multifunzionale di Psicologia dell'Università degli Studi di Padova - Italy
- 01-05/03/2016      Invited Seminar: **European Synchrotron Radiation Facility ESRF - Grenoble**  
<https://www.esrf.eu/home/events/Seminars/area-events/esrf-seminars-list/laue-lenses-from-the-first-principles-to-a-next-generation-of-gamma-ray-telescopes.html>  
 Title of the talk: "Broad band Laue lenses (80 - 600 keV): from the first principles to a next generation of gamma-ray telescopes".
- 07/2015      Talk: **14th Marcel Grossmann Meeting - MG14**  
 Title of the talk: "State-of-the-art of the hard x-/soft gamma-ray focusing telescopes: the LAUE project status".  
 2015 July 12-18 University of Rome "La Sapienza", Rome - Italy  
<http://www.icra.it/mg/mg14/>
- 08/2013      Talk: **SPIE Conference Optics + Photonics**  
<https://spie.org/Documents/ConferencesExhibitions/OP13-final-L.pdf>  
 Title of the talk: "The LAUE project and its main results".  
 2013 August 25-29, San Diego Convention Center S. Diego - USA
- 09/2013      **Congresso Nazionale Oggetti Compatti CNOC VIII**  
[http://www.brera.inaf.it/campana/cnoc8/CNOC\\_VIII/Programma.html](http://www.brera.inaf.it/campana/cnoc8/CNOC_VIII/Programma.html)  
 Title of the talk (**invited**): "Focusing instruments for hard X-ray photons".  
 2013 September 17-19, Ferrara - Italy
- 09/2013      **99° Congresso Nazionale Società Italiana di Fisica**  
<https://www.sif.it/attivita/congresso/xcix>  
 Title of the talk: "Broad band Laue lenses for gamma rays (80 – 600 keV): experimental results".  
 2013 September 23-27 , Trieste - Italy
- 10/2012      **Meeting with Fabrizio Conicella, General Manager of Bionduty park - Ivrea (Colleretto Giacosa)**  
 Title of the talk: "Medical applications for Laue lenses - New imaging technique for nuclear diagnostic medicine and radiotherapy".
- 10/2012      **X-ray Astronomy: towards the next 50 years!**  
 50th anniversary for X-ray Astronomy  
 Poster presentation: Prospects for Gamma-ray Focusing Telescopes beyond 70/100 keV.  
[http://www.brera.inaf.it/xrayastronomy\\_anniversary/](http://www.brera.inaf.it/xrayastronomy_anniversary/)  
 1-5 October, 2012 - Milano (Italy)
- 09/2012      **XCVIII Congresso Nazionale Società Italiana di Fisica**  
 Title of the talk: "Laue lenses for soft gamma-ray astronomy and other applications: development status and first results".  
 2012 September - 17-21, Naples - Italy
- 12/2012      **International Workshop on Astronomical X-ray Optics (AXRO)**  
<http://eos.asu.cas.cz/axro12/Program>  
 Title of the talk (**invited**): "The LAUE project: a lens for hard X and soft Gamma rays".

2012, December 10-13 Prague - Czech Republic

06/2012

**SPIE Astronomical Telescopes and Instrumentation**

<http://spie.org/Publications/Proceedings/Paper/10.1117/12.926378>

Title of the talk: "Development status of the LAUE project".

2012, July 1-6 Amsterdam RAI Convention Center - Amsterdam (The Netherlands)

10/2011

**3<sup>rd</sup> Galileo–Xu Guang qi Meeting**

[http://www.icranet.org/images/stories/Meetings/XU3/](http://www.icranet.org/images/stories/Meetings/XU3/allegato1_program_gx3_complete.pdf)

[allegato1\\_program\\_gx3\\_complete.pdf](http://www.icranet.org/images/stories/Meetings/XU3/allegato1_program_gx3_complete.pdf)

Title of the talk (**invited**): "Laue lens development for high energy astrophysics: status and prospects".

2011, October 11-15 National Astronomical Observatories - Beijing (China)

08/2011

**SPIE Optical Engineering + Applications**

<http://spie.org/Publications/Proceedings/Paper/10.1117/12.895236>

Title of the talk: "The LAUE project for broadband gamma-ray focusing lenses".

2011 August 21-25, San Diego Convention Center, S. Diego - USA

12/2011

**Congresso Nazionale Oggetti Compatti CNOC VII**

<http://www.brera.inaf.it/campana/cnoc7/cnoc7/Programma.html>

Title of the talk: "Spectral behavior of the transient black hole candidate 4U 1630-47".

2011 December 13-16 Bormio - Italy

11/2011

**Second Ferrara Workshop on X-ray Astrophysics up to 511 keV**

<http://www.fe.infn.it/astrofe2011/>

Title of the talk: "The LAUE project: a broad band gamma-ray focusing lens".

2011 November 14-16, Ferrara - Italy

07/2010

**Workshop on the occasion of Eckhard Kendziorra's 65<sup>th</sup> birthday**

<https://uni-tuebingen.de/fakultaeten/mathematisch-naturwissenschaftliche-fakultaet/fachbereiche/physik/institute/astromie-astrophysik/institut/astromie/aktuelles/konferenzen/workshop-e-kendziorra/programpresentations/>

Title of the talk: "Extending the passband of focusing hard X-ray telescopes".

2010, July 15-16 - Tübingen - Germany

09/2009

**Black Holes in Binary Systems: Observations versus Theory**

<http://www.fe.infn.it/astrofe2009/>

2009 September 11-12, Ferrara - Italy

09/2008

**7<sup>th</sup> INTEGRAL Workshop**

<https://pos.sissa.it/067/>

2008 September 8-11 - Copenhagen, Denmark

09/2007

**Congresso Nazionale Oggetti Compatti (CNOC V)**

Title of the talk: "RXTE long term monitoring of the black-hole transient 4U 1630-47".

<http://www.brera.inaf.it/campana/webpage/sergio/Congresses.html>

2007 September 11-14, S.Vito lo Capo - Italy

09/2006

**VI Microquasar Workshop: Microquasars and Beyond**

Poster presentation: "Color-color diagrams of Z and Atoll sources observed

with INTEGRAL/JEM-X”.

<https://pos.sissa.it/cgi-bin/reader/conf.cgi?confid=33>

September 18-22, 2006 Como, Italy

09/2005

**Congresso Nazionale Oggetti Compatti (CNOC IV)**

<https://web.oapd.inaf.it/cnoc4/prog.html> Title of the talk: "Simultaneous RXTE/INTEGRAL observations of the peculiar LMXB GX 3+1".

2005 November 23-25 Padua - Italy

01/2005

**Internal INTEGRAL Science Workshop**

<http://integral.esac.esa.int/workshops/Jan2005/> January 18-21, 2005 ESTEC

Noordwijk - The Netherlands

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## Publications

### Refereed invited book chapter

2018-2019

**The WSPC Handbook of Astronomical Instrumentation.** Edited by

D. N. Burrows (The Pennsylvania State University, USA)

First Chapter "Laue Lenses in Hard X-ray Astronomy" in Volume 5: "Gamma-Ray and Multimessenger Astronomical Instrumentation". Spring 2019.

<https://www.worldscientific.com/worldscibooks/10.1142/9446>

### Refereed articles

2017

**Swift J164449.3+573451 and Swift J2058.4+0516: Black hole mass estimates for tidal disruption event sources.**

Seifina, Elena; Titarchuk, Lev; Virgilli, Enrico - Astronomy & Astrophysics, Volume 607, id.A38, 14 pp.

<https://arxiv.org/abs/1707.05898>

2017

**Expected performances of a Laue lens made with bent crystals.**

Virgilli, Enrico; Valsan, Vineeth; Frontera, Filippo; Caroli, Ezio; Liccardo, Vincenzo; Stephen, John Buchan.

Journal of Astronomical Telescopes, Instruments, and Systems, Volume 3, id. 044001 (2017)

<https://arxiv.org/abs/1711.03475>

2016

**Focusing effect of bent GaAs crystals for  $\gamma$ -ray Laue lenses: Monte Carlo and experimental results.**

E. Virgilli, Frontera, F.; Rosati, P.; Bonnini, E.; Buffagni, E.; Ferrari, C.; Stephen, J. B.; Caroli, E.; Auricchio, N.; Basili, A.; Silvestri, S.

Experimental Astronomy, Volume 41, Issue 1-2, pp. 307-326.

<https://arxiv.org/abs/1512.01109>

2015

**Hard x-ray broad band Laue lenses (80-600 keV): building methods and performances**

E. Virgilli, Frontera, F.; Rosati, P.; Liccardo, V.; Squerzanti, S.; Carassiti, V.; Caroli, E.; Auricchio, N.; Stephen, J. B.

Proceedings of the SPIE, Volume 9603, id. 960308 9 pp. (2015).

<https://arxiv.org/abs/1509.03416>

- 2015      **A simulation study on the focal plane detector of the LAUE project**  
 Khalil, M.; Frontera, F.; Caroli, E.; Virgilli, E.; Valsan, V.  
 Nuclear Inst. and Methods in Physics Research, A, Volume 786, p. 59-70.  
<https://www.sciencedirect.com/science/article/pii/S0168900215002946?via%3Dihub>
- 2014      **Study and characterization of bent crystals for Laue lenses**  
 Liccardo, Vincenzo; Virgilli, Enrico; Frontera, Filippo; Valsan, Vineeth; Buffagni, Elisa;  
 Ferrari, Claudio; Bonnini, Elisa; Zappettini, Andrea; Guidi, Vincenzo; Bellucci, Valerio;  
 Camattari, Riccardo.  
 Experimental Astronomy, Volume 38, Issue 3, pp.401-416.  
<https://link.springer.com/article/10.1007%2Fs10686-014-9425-y>
- 2009      **Implementation of a public BeppoSAX GRBM online catalogue and scientific exploitation of the GRBM data archive**  
 C. Guidorzi; M. Lacapra; C. Ceccobello; L. Titarchuk; F. Frontera; E. Virgilli; L. Sambo; R. Farinelli; S. Silvestri; M. Orlandini; L. Nicastro; L. Amati.  
 CONTRATTO ASI-INAF I/088/06/0 "STUDIO DI ASTROFISICA DELLE ALTE ENERGIE" Teoria e Simulazioni e Analisi Dati Referenza Progetto: DA-019  
<http://saxgrbm.iasfbo.inaf.it/>

#### Non-refereed publications

- 2016      **The LAUE project: latest developments.**  
 Liccardo, V.; Virgilli, E.; Frontera, F.; Rosati, P.  
 Journal of Physics: Conference Series, Volume 706, Issue 5, article id. 052037 (2016).  
<http://iopscience.iop.org/article/10.1088/1742-6596/706/5/052037/meta>
- 2015      **New Developments in the laue Project**  
 Liccardo, V.; Frontera, F.; E. Virgilli, Valsan, V.  
 The Thirteenth Marcel Grossmann Meeting, Published by World Scientific Publishing Co. Pte. Ltd., 2015. ISBN 9789814623995, pp. 881-888  
[https://www.worldscientific.com/doi/abs/10.1142/9789814623995\\_0044](https://www.worldscientific.com/doi/abs/10.1142/9789814623995_0044)
- 2015      **X-ray characterization of curved crystals for hard x-ray astronomy**  
 Buffagni, Elisa; Bonnini, Elisa; Ferrari, Claudio; Virgilli, Enrico; Frontera, Filippo.  
 Proceedings of the SPIE, Volume 9510, id. 951006 10 pp. (2015).  
<https://www.spiedigitallibrary.org/conference-proceedings-of-spie/9510/1/X-ray-characterization-of-curved-crystals-for-hard-x-ray/10.1117/12.2179058.short>
- 2013      **The LAUE project and its main results.**  
 E. Virgilli, F. Frontera, V. Valsan, V. Liccardo, V. Carassiti, F. Evangelisti, S. Squerzanti, M. Parise, M. Statera, v. Guidi, , V. Bellucci, R. Camattari, E. Caroli, N. Auricchio, A. Basili, S. Silvestri, J. B. Stephen, F. Cassese, L. Recanatesi, C. Ferrari, A. Zappettini, E. Buffagni, S. Mottini, M. Pecora, and B. Negri.  
 Volume 8861 of Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, Sep. 2013.  
<https://arxiv.org/abs/1401.4948>
- 2013      **The ground support equipment for the LAUE project.**  
 Caroli, E.; Auricchio, N.; Basili, A.; Carassiti, V.; Cassese, F.; Del Sordo, S.; Frontera, F.; Pecora, M.; Recanatesi, L.; Schiavone, F.; Silvestri, S.; Squerzanti, S.; Stephen, J. B.; Virgilli, E.  
 Proceedings of the SPIE, Volume 8861, id. 886108 13 pp. (2013).



<https://www.spiedigitallibrary.org/conference-proceedings-of-spie/8861/1/The-ground-support-equipment-for-the-LAUE-project/10.1117/12.2024349.short>

- 2013*      **Bent crystal selection and assembling for the LAUE project.**  
V. Liccardo, E. Virgilli, F. Frontera, V. Valsan, V. Guidi, and E. Buffagni.  
Proceedings of the SPIE, Volume 8861, id. 88610A 9 pp. (2013).  
<https://arxiv.org/abs/1310.0384>
- 2013*      **Results of the simulations of the petal/lens as part of the LAUE project.**  
V. Valsan, F. Frontera, E. Virgilli, V. Liccardo, E. Caroli, and J. B Stephen.  
Proceedings of the SPIE, Volume 8861, id. 886109 12 pp. (2013).  
<https://arxiv.org/abs/1310.0323>
- 2013*      **Scientific prospects in soft gamma-ray astronomy enabled by the LAUE project.**  
F. Frontera, E. Virgilli, V. Valsan, V. Liccardo, V. Carassiti, E. Caroli, F. Cassase, L. Recanatesi, C. Ferrari, V. Guidi, M. Pecora, S. Mottini, L. Amati, N. Auricchio, L. Bassani, R. Campana, R. Farinelli, C. Guidorzi, C. Labanti, R. Landi, A. Malizia, M. Orlandini, V. Sguera, J. B. Stephen, and L. G. Titarchuk.  
Proceedings of the SPIE, Volume 8861, id. 886106 17 pp. (2013).  
<https://arxiv.org/abs/1310.0641>
- 2013*      **Laue lenses for hard x-/soft gamma-rays: new prototype results.**  
V. Liccardo, E. Virgilli, F. Frontera, V. Valsan, V. Carassiti, F. Evangelisti, S. Squerzanti.  
International Journal of Modern Physics: Conference Series, Volume 23, Issue , pp. 11-15 (2013).  
<https://www.worldscientific.com/doi/abs/10.1142/S2010194513011008>
- 2013*      **The LAUE project for broadband gamma-ray focusing lenses.**  
E. Virgilli, F. Frontera, V. Valsan, V. Liccardo, E. Caroli, J. Stephen, F. Cassese, L. Recanatesi, M. Pecora, S. Mottini, P. Attinà, B. Negri.  
International Journal of Modern Physics: Conference Series, Volume 23, pp. 43-47 (2013).  
<https://www.worldscientific.com/doi/abs/10.1142/S2010194513011057>
- 2012*      **Characterization of bent crystals for laue lenses.**  
V. Liccardo, E. Virgilli, F. Frontera, and V. Valsan.  
Proceedings of the SPIE, Volume 8443, article id. 844332, 10 pp. (2012).  
<https://arxiv.org/abs/1211.5012>
- 2012*      **Expected performance of a laue lens based on bent crystals.**  
V. Valsan, F. Frontera, E. Virgilli, and V. Liccardo.  
Proceedings of the SPIE, Volume 8443, article id. 844331, 7 pp. (2012).  
<https://arxiv.org/abs/1211.4997>
- 2012*      **Development status of the laue project.**  
F. Frontera, E. Virgilli, V. Liccardo, V. Valsan, V. Carassiti, S. Chiozzi, F. Evangelisti, S. Squerzanti, M. Statera, V. Guidi, C. Ferrari, R. A. Zappettini, E. Caroli, N. Auricchio, S. Silvestri, R. Camattari, F. Cassese, L. Recanatesi, M. Pecora, S. Mottini, and B. Negri.  
Space Telescopes and Instrumentation 2012: Ultraviolet to Gamma Ray. Proceedings of the SPIE, Volume 8443, article id. 84430B, 9 pp. (2012).  
<https://arxiv.org/abs/1211.4977>

- 2012      **Gamma-ray Laue lenses under development for deep AGN observations.**  
 Frontera, F.; Virgilli, E.; Liccardo, V.; Valsan, V.; Carassiti, V.; Evangelisti, F.; Squerzanti, S.; Risaliti, G.  
 Journal of Physics: Conference Series, Volume 355, Issue 1, id. 012005 (2012).  
<http://iopscience.iop.org/article/10.1088/1742-6596/355/1/012005/meta>
- 2011      **Laue lenses for hard x-/soft gamma-rays: new prototype results.**  
 E. Virgilli, F. Frontera, V. Valsan, V. Liccardo, V. Carassiti, F. Evangelisti, and S. Squerzanti.  
 Proceedings of the SPIE, Volume 8147, id. 81471B (2011).  
<https://arxiv.org/abs/1110.5493>
- 2011      **The Laue Project: A Focusing Lens For Broadband Soft X-/gamma-rays.**  
 E. Virgilli; Frontera, F.; Vineeth, V.; Liccardo, V.  
 The Second Ferrara Workshop on "X-ray Astrophysics up to 511 keV", held in Ferrara (Italy), September 14 - 16, 2011.  
<http://adsabs.harvard.edu/abs/2011xau5.confE..53V>
- 2011      **Test results of a new Laue lens prototype for soft gamma-rays.**  
 V. Valsan, E. Virgilli, V. Liccardo, and F. Frontera.  
 The Second Ferrara Workshop on "X-ray Astrophysics up to 511 keV", held in Ferrara (Italy), September 14 - 16, 2011.  
<http://adsabs.harvard.edu/abs/2011xau5.confE..52V>
- 2011      **Evidence Of A Black Hole In The X-ray Binary System Cygnus X-3**  
 Lombardi, C.; Virgilli, E.; Titarchuk, L.; Frontera, F.; Farinelli, R.  
 The Second Ferrara Workshop on "X-ray Astrophysics up to 511 keV", held in Ferrara (Italy), September 14 - 16, 2011.  
<http://adsabs.harvard.edu/abs/2011xau5.confE..36L>
- 2009      **New results on focusing of gamma-rays with Laue lenses.**  
 Ferrari, F.; Frontera, F.; Loffredo, G.; Virgilli, E.; Guidorzi, C.; Carassiti, V.; Evangelisti, F.; Landi, L.; Chiozzi, S.; Squerzanti, S.; Caroli, E.; Stephen, J. B.; Schiavone, F.; Basili, A.; Andersen, K. H.; Courtois, P.  
 Proceedings of the SPIE, Volume 7437 (2009), article id. 74370M, 8 pp. (2009).  
<https://arxiv.org/abs/0910.2398>
- 2008      **A gamma-ray Laue lens focusing telescope aboard a balloon experiment.**  
 Frontera, F.; Loffredo, G.; Pisa, A.; Virgilli, E.; Carassiti, V.; Evangelisti, F.; Landi, L.; Squerzanti, S.; Auricchio, N.; Caroli, E.; Landini, G.; Silvestri, S.; Stephen, J. B.  
 Memorie della Società Astronomica Italiana, v.79, p.807 (2008).  
<http://sait.oat.ts.astro.it/MmSAI/79/PDF/807.pdf>
- 2006      **Color-color diagrams of Z and Atoll sources observed with INTEGRAL/JEM-X.**  
 Venier, E.; Virgilli, E.; Farinelli, R.; Frontera, F.  
 Proceedings of the VI Microquasar Workshop: Microquasars and Beyond. September 18-22, 2006, Como, Italy., id.99.1  
<https://pos.sissa.it/033/099/pdf>
- 2004      **INTEGRAL Observations of Four Neutron-Star Low Mass X-Ray Binaries: GX 3+1, GX 354-0, GX 349+2 and the Rapid Burster.**  
 Farinelli, R.; Frontera, F.; Virgilli, E.; Falanga, M.; Goldoni, P.; Goldwurm, A.  
 Proceedings of the 5th INTEGRAL Workshop on the INTEGRAL Universe (ESA

SP-552). 16-20 February 2004, Munich, Germany. Scientific Editors: V. Schönfelder, G. Lichti and C. Winkler, p.317  
<http://articles.adsabs.harvard.edu/full/2004ESASP.552..317F>

Il sottoscritto Enrico Virgilli, ai sensi del D. Lgs. 196/2003 sulla riservatezza dei dati personali, dichiara di essere stato compiutamente informato delle finalità e modalità del trattamento dei dati personali consapevolmente forniti nel presente curriculum e di autorizzarne l'utilizzo e l'archiviazione in banca dati.

Ferrara, 25 Gennaio 2019

Firma